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25X1

[redacted]

January 29, 1971

Attention: John C.

Gentlemen:

Enclosed please find three copies of Activity Summary No. 25, [redacted] 2201201-AS-25.

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Sincerely,

[redacted]

Senior Staff Scientist

PSC/c
Enclosures

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SEPARATED FROM CLASSIFIED ATTACHMENTS

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Declassification Review by NGA/DoD
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[redacted]

January 29, 1971

ACTIVITY SUMMARY

To: John C.

From: [redacted] 25X1

Subject: Activity Summary
Facility Visit, Contract [redacted] 25X1

25X1 Reference: [redacted] 2201201-AS-25

Date: 20-22 January 1971

For the week of 18 January both [redacted] 25X1
visited the sponsor facility on Contract [redacted] 25X1
was at the sponsor facility on 20, 21 January and [redacted] on 25X1
21, 22 January.

The objectives for this trip were stated in the program plan presented in the Activity Summary AS #24. The primary objectives included

1. initiation of system characterization.
2. processing of operational material.
3. definition of complex aberrations to initiate specification of complex filters.

Not all objectives were met during this visit as emphasis was placed on item 1, with which good progress was obtained. We did not get the planned two days effort on operational material because of the

GROUP 1
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application to item 1. Some preview of item 3 was performed
25X1 during discussions between [redacted] and Dennis R. but these
will be continued on the week of 25 January 1971 by [redacted] 25X1
The primary accomplishment was the analysis of the optical system response and its stability, a required step to determine the variables to be accounted during system characterization. Details of this trip are written in the lab notebook.

The next trip is planned by [redacted] on 27, 28 January 1971. 25X1
The objectives of this trip are specified in the Program Plan.

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Program Plan

To John C.

25X1 From [redacted]

Subject Program Plan

Date Jan 21, 1971

It has been shown that focus, based on resolution criterion, does not change with change of object transparency. The depth of focus is measured to be 45 μ within resolution tolerance of 4 l/mm. Best focus is at position 31.605 cm. for the above setting, and the system can be focused to within ± 10 μ. This means that transparencies can be replaced without affecting focus, and that if focus is required it can be performed within depth of focus of system.

The main problem with the system is the size of the target [redacted] and the apparent

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25X1

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tilt that exists at the input plane. The first thing to do is replace the T/O carrier with a standard Beck carrier (as is now in progress) and to use a smaller portion of the target near the on-axis position. This means we should recenter the target in several steps and use only the center cm^2 area of the input plane. This will preclude large errors from field curvature from affecting the system response measure.

Outline

① Replace input plane with Beck mount to obtain required alignment.

② Use "L" target to measure system response. Once the target is placed in the system and the system is focused & checked then all system variables can be considered constant.

③ Trace target and output. Plot contrast vs. line frequency for input processed output, unprocessed output.

Schedules [redacted] & Lab progress schedules.

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